

Title (en)  
RACK LEVEL PRE-INSTALLED INTERCONNECT FOR ENABLING CABLELESS SERVER/STORAGE/NETWORKING DEPLOYMENT

Title (de)  
VORINSTALLIERTE VERBINDUNG AUF RACKEBENE FÜR KABELLOSEN SERVER-/SPEICHER-/VERNETZUNGSEINSATZ

Title (fr)  
INTERCONNEXION PRÉINSTALLÉE AU NIVEAU DU BÂTI POUR PERMETTRE LA MISE EN UVRE DE SERVEUR/STOCKAGE/RÉSEAU SANS CÂBLES

Publication  
**EP 3123845 A4 20171115 (EN)**

Application  
**EP 15768343 A 20150311**

Priority  

- US 201414227497 A 20140327
- US 2015019940 W 20150311

Abstract (en)  
[origin: US2015280827A1] Apparatus and methods for rack level pre-installed interconnect for enabling cableless server, storage, and networking deployment. Plastic cable waveguides are configured to couple millimeter-wave radio frequency (RF) signals between two or more Extremely High Frequency (EHF) transceiver chips, thus supporting millimeter-wave wireless communication links enabling components in the separate chassis to communicate without requiring wire or optical cables between the chassis. Various configurations are disclosed, including multiple configurations for server chassis, storage chassis and arrays, and network/switch chassis. A plurality of plastic cable waveguide may be coupled to applicable support/mounting members, which in turn are mounted to a rack and/or top-of-rack switches. This enables the plastic cable waveguides to be pre-installed at the rack level, and further enables racks to be installed and replaced without requiring further cabling for the supported communication links. The communication links support link bandwidths of up to 6 gigabits per second, and may be aggregated to facilitate multi-lane links.

IPC 8 full level  
**H04B 1/40** (2015.01); **H01P 3/16** (2006.01)

CPC (source: EP US)  
**H01P 3/10** (2013.01 - US); **H01P 5/00** (2013.01 - US); **H01P 5/02** (2013.01 - US); **H04B 1/40** (2013.01 - EP US); **H04B 3/52** (2013.01 - EP US); **H04B 5/00** (2013.01 - EP US); **H04B 10/40** (2013.01 - US); **H04B 10/803** (2013.01 - US); **H04B 10/90** (2013.01 - EP US); **H04L 49/40** (2013.01 - EP US); **H04Q 11/0066** (2013.01 - US); **H01P 5/028** (2013.01 - EP US); **H04Q 2011/0052** (2013.01 - US)

Citation (search report)  

- [XAI] US 2013266154 A1 20131010 - MCCORMACK GARY D [US], et al
- [XPA] WO 2014134343 A1 20140904 - TEXAS INSTRUMENTS INC [US], et al
- [XAI] KIM YANGHYO ET AL: "High-Speed mm-Wave Data-Link Based on Hollow Plastic Cable and CMOS Transceiver", IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS, IEEE SERVICE CENTER, NEW YORK, NY, US, vol. 23, no. 12, 1 December 2013 (2013-12-01), pages 674 - 676, XP011532637, ISSN: 1531-1309, [retrieved on 20131128], DOI: 10.1109/LMWC.2013.2283862
- See references of WO 2015148124A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**US 2015280827 A1 20151001; US 9496592 B2 20161115; CN 106063397 A 20161026; CN 106063397 B 20200306; EP 3123845 A1 20170201; EP 3123845 A4 20171115; TW 201537349 A 20151001; TW I563388 B 20161221; US 10374726 B2 20190806; US 2017126330 A1 20170504; US 2018212686 A1 20180726; WO 2015148124 A1 20151001**

DOCDB simple family (application)  
**US 201414227497 A 20140327; CN 201580010778 A 20150311; EP 15768343 A 20150311; TW 104104389 A 20150210; US 2015019940 W 20150311; US 201615331250 A 20161021; US 201815874499 A 20180118**